

92. (NEW) The method of claim 5 wherein the fluid permeable elastic member comprises a moisture permeable envelope having a hollow interior, and wherein step (d) causes the moisture to pass into the hollow interior of the fluid permeable elastic member and away from the electrode array.

93. (NEW) The method of claim 6 wherein the fluid permeable elastic member comprises a moisture permeable envelope having a hollow interior, and wherein step (d) causes the moisture to pass into the hollow interior of the fluid permeable elastic member and away from the electrode array.

NE

94. (NEW) The method of claim 7 wherein the fluid permeable elastic member comprises a moisture permeable envelope having a hollow interior, and wherein step (d) causes the moisture to pass into the hollow interior of the fluid permeable elastic member and away from the electrode array.

95. (NEW) The method of claim 15 wherein the fluid permeable elastic member comprises a moisture permeable envelope having a hollow interior, and wherein step (d) causes the moisture to pass into the hollow interior of the fluid permeable elastic member and away from the electrode array.

REMARKS

Claims 5-7, 15 and 34-91 are pending. Claims 5, 6, 7, 15, 34, 38, 43, 45, 49, 54, 58, 62, 67, 75-77 and 80 are amended. Claims 84-95 are newly added.

A marked-up copy of the amended claims is attached as Attachment A.

I. Claim Rejections Based on Prior Art

Claims 5-7, 15, 35, 36, 44, 46, 47, 55-57, 59, 60, 68-73 and 81-83 stand rejected as being anticipated by U.S. 5,451,204 (Yoon).

Claims 37, 48, 61 and 74 stand rejected as being made obvious by Yoon '204 in view of Edwards et al 5,507,743.

Claim 5 as amended recites the step of, during the RF delivery step, applying suction through the fluid permeable elastic member to cause moisture generated during RF delivery to pass into the fluid permeable elastic member and away from the tissue. Claims 35-37 and 44 are dependent on Claim 5 and thus include this recitation.

Similarly, amended Claim 6 recites the step of, during the RF delivery step, applying suction through the fluid permeable elastic member to cause moisture generated during RF delivery to pass into the fluid permeable elastic member and away from the tissue. Claims 46-48 and 55-57 are dependent on Claim 6 and thus include this recitation.

Claim 7 as amended recites the step of, during the RF delivery step, applying suction through the fluid permeable elastic member to cause moisture generated during RF delivery to pass into the fluid permeable elastic member and away from the tissue. Claims 59-61 and 68-70 are dependent on Claim 7 and thus include this recitation.

Yoon fails to disclose or fairly suggest the step of during the RF delivery step, applying suction through the fluid permeable elastic member to cause moisture generated during RF delivery to pass into the fluid permeable elastic member and away from the tissue. The office action cites to Col. 9, lines 17-22 as disclosing application of suction, however there is no disclosure of, or fair suggestion for, application of suction during RF delivery. RF delivery is described only in connection with the embodiment of Fig. 5: "By making the spine of electrically conductive material, an electrosurgical probe can be passed through the trunk 92 such that a unipolar electrosurgical device is produced. . ." (Col. 9, line 68 – Col. 10, line 4) yet nowhere in the application is there any disclosure for drawing suction through the device during RF delivery. There is likewise no disclosure in Edwards of these teachings that are missing from Yoon. Accordingly, Claims 5, 6, 7, 35-37, 44, 46-48, 55-57, 59-61 and 68-70 are patentable over the cited art.

Claim 15 as originally filed recites the step of "applying suction through the tubular member to draw the tissue into contact with the electrode array." (This claim was only amended to correct an error step (d) in which "electrode carrying member" was used in place of "fluid permeable elastic member".) Claims 72-74 and 81-83 are dependent on Claim 15.

As understood by Applicants, the cited references lack any disclosure of the step of applying suction to draw the tissue into contact with the electrode array. As this teaching is not found in the cited references, Claims 15, 72-74 and 81-83 are patentable over the cited art.

Claim 71 as originally filed recites that the fluid permeable elastic member includes metallized fabric. The member 88 identified in the office action is formed of sponge material, and application can find no teaching in Yoon of the use of a metallized fabric. Accordingly, Claim 71 is patentable over the teachings of Yoon.

II. New Claims 84 – 95

New Claims 84 - 87 recite that the electrode array is a bipolar array. These claims are patentable over the cited art for the reasons set forth above. In addition, while the Yoon reference describes use of the spine 90 to form a unipolar electosurgical device, there is no disclosure of a bi-polar device. Moreover, because the Yoon spine 90 (Fig. 5) extends through a sponge, which expands by absorption of body fluids (Col. 9, lines 55-57), one of skill in the art would not modify Yoon to form a bi-polar device. Given this expansion mechanism, one of skill in the art would not be motivated to provide the electrode branches 94 in a bi-polar configuration, since the presence of body fluids in the sponge would create a short between electrodes of opposite polarity. This would render the electrodes ineffective for ablation. Accordingly, new Claims 84-87 are patentable.

New Claims 88-91 recite that applied suction substantially eliminates liquid surrounding the electrodes during ablation. These claims are patentable for the reasons set forth above. Additionally, the cited references lack disclosure of applying suction to substantially eliminate liquid surrounding the electrodes during ablation. Since the Yoon spine 90 and branches 94 extend through a sponge, which absorbs and retains body fluid, there is necessarily liquid surrounding the branches 94. Thus, Claims 88-91 are patentable for the additional reason that the cited art fails to disclose using suction to substantially eliminate liquid surrounding the electrodes during ablation.

New Claims 92-95 are dependent on Claims 5, 6, 7 and 15, respectively, and as such are patentable for the reasons set forth above in connection with Claims 5, 6, 7 and 15. In addition, these claims recite that the fluid permeable elastic member comprises a

moisture permeable envelope having a hollow interior, and wherein step (d) causes the moisture to pass into the hollow interior of the fluid permeable elastic member and away from the electrode array. As this teaching is not found in the cited references, these claims are patentable over the cited art.

III. Allowed Claims

Applicants appreciate the Examiner's indication that Claims 34, 38-43, 45, 49-54, 58, 62-67 and 75-80 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 34, 38, 43, 45, 49, 54, 58, 62, 67, 75 and 80 have been rewritten in independent form. Claims 39-42, 50-53, 63-66, 76-77 are dependent on one of the rewritten claims.

Claims 78 and 79 were also indicated allowable if re-written. Applicants believe that Claim 71, from which they are dependent, is also allowable for the reasons for which Claims 34, 45 and 58 were allowed (specifically, recitation of a metallized fabric fluid permeable elastic member). For this reason, Claim 71 has also been re-written in independent form.

IV. Conclusion

In view of the foregoing, it is believed that all claims are now in condition for allowance. Early reconsideration and allowance of the claims is therefore respectfully requested.

Respectfully submitted,

STALLMAN & POLLOCK LLP

Dated: September 19, 2002

By: Kathleen A. Frost
Kathleen A. Frost
Reg. No. 37,326

Attorneys for Applicant(s)

5. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(e) providing an ablation device including an expandable electrode array carried by an elongate tubular member and a pair of elongate flexures wherein each flexure includes at least one opening, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon;

(f) positioning the electrode array in contact with tissue to be ablated and moving the array to an expanded condition by expanding the flexures;

(g) delivering RF energy through the array to the tissue to cause the tissue to dehydrate; and

(h) during step (c), applying suction through the fluid permeable elastic member to cause [permitting] moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic [electrode carrying] member and away from the tissue and allowing at least a portion of the moisture to pass through the openings in the flexures.

6. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(e) providing an ablation device including an electrode array carried by an elongate tubular member, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon;

(f) positioning the electrode array in contact with tissue to be ablated;

(g) delivering RF energy through the array to the tissue to cause the tissue to dehydrate; and

(h) during step (c), applying suction through the fluid permeable elastic member to cause [permitting] moisture generated during the dehydration of step (c) to pass into the [electrode carrying] fluid permeable elastic member, [and] away from tissue and [permitting at least a portion of the moisture to pass from the array] into the tubular member.

7. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(e) providing an ablation device including an expandable electrode array carried by an elongate tubular member, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon;

(f) positioning the electrode array in contact with tissue to be ablated and moving the array to an expanded condition;

(g) delivering RF energy through the array to the tissue to cause the tissue to dehydrate; and

(h) during step (c), applying suction to the tubular member and through the fluid permeable elastic member to cause [permitting] moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic [electrode carrying] member and away from the tissue, [including applying] the suction drawing [to draw] the moisture through the tubular member.

15. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(e) providing an ablation device including an electrode array carried by an elongate tubular member, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon;

(f) positioning the electrode array into contact with tissue to be ablated;

(g) delivering RF energy through the array to the tissue to cause the tissue to dehydrate;

(h) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic [electrode carrying] member and away from the tissue and

(e) applying suction through the tubular member to draw the tissue into contact with the electrode array.

34. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(a) providing an ablation device including an expandable electrode array carried by an elongate tubular member and a pair of elongate flexures wherein each flexure includes at least one opening, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon, [The method of claim 5] wherein the fluid permeable elastic member includes metallized fabric;

(b) positioning the electrode array in contact with tissue to be ablated and moving the array to an expanded condition by expanding the flexures;

(c) delivering RF energy through the array to the tissue to cause the tissue to dehydrate; and

(d) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic member and away from the tissue and allowing at least a portion of the moisture to pass through the openings in the flexures.

38. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(a) providing an ablation device including an expandable electrode array carried by an elongate tubular member and a pair of elongate flexures wherein each flexure includes at least one opening, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon;

(b) positioning the electrode array into an organ and into contact with tissue to be ablated and moving the array to an expanded condition by expanding the flexures; [The method of claim 5 wherein the tissue to be ablated is within an organ,]

(c) [wherein the method further includes the step of] measuring the approximate length and width of the organ, [and wherein step (c) includes the steps of] selecting an ablation power corresponding to the measured length and

width, and delivering [the] RF energy through the array to the tissue at approximately the selected power to cause the tissue to dehydrate; and

(d) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic member and away from the tissue and allowing at least a portion of the moisture to pass through the openings in the flexures.

43. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(a) providing an ablation device including an expandable electrode array carried by an elongate tubular member and a pair of elongate flexures wherein each flexure includes at least one opening, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon, [The method of claim 5] wherein the array material has elasticity in a transverse direction and in a longitudinal direction and wherein the elasticity in the transverse direction is greater than the elasticity in the longitudinal direction

(b) positioning the electrode array in contact with tissue to be ablated and moving the array to an expanded condition by expanding the flexures;

(c) delivering RF energy through the array to the tissue to cause the tissue to dehydrate; and

(d) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic member and away from the tissue and allowing at least a portion of the moisture to pass through the openings in the flexures.

45. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(a) providing an ablation device including an electrode array carried by an elongate tubular member, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon, [The

method of claim 6] wherein the fluid permeable elastic member includes metallized fabric;

- (b) positioning the electrode array in contact with tissue to be ablated;
- (c) delivering RF energy through the array to the tissue to cause the tissue to dehydrate; and
- (d) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic member, away from tissue and into the tubular member.

49. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

- (a) providing an ablation device including an electrode array carried by an elongate tubular member, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon;
- (b) positioning the electrode array within an organ and into contact with tissue to be ablated [The method of claim 6 wherein the tissue to be ablated is within an organ,];
- (c) [wherein the method further includes the step of] measuring the approximate length and width of the organ, [and wherein step (c) includes the steps of] selecting an ablation power corresponding to the measured length and width, and delivering [the] RF energy through the array to the tissue at approximately the selected power to cause the tissue to dehydrate; and
- (d) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic member, away from tissue and into the tubular member.

54. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

- (a) providing an ablation device including an electrode array carried by an elongate tubular member, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon, [The

method of claim 6] wherein the array material has elasticity in a transverse direction and in a longitudinal direction and wherein the elasticity in the transverse direction is greater than the elasticity in the longitudinal direction;

(b) positioning the electrode array in contact with tissue to be ablated;

(c) delivering RF energy through the array to the tissue to cause the tissue to dehydrate; and

(d) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic member, away from tissue and into the tubular member.

58. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(a) providing an ablation device including an expandable electrode array carried by an elongate tubular member, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon, [The method of claim 7] wherein the fluid permeable elastic member includes metallized fabric;

(b) positioning the electrode array in contact with tissue to be ablated and moving the array to an expanded condition;

(c) delivering RF energy through the array to the tissue to cause the tissue to dehydrate; and

(d) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic member and away from the tissue, the suction drawing the moisture through the tubular member.

62. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(a) providing an ablation device including an expandable electrode array carried by an elongate tubular member, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon;

(b) positioning the electrode array into and organ and contact with tissue to be ablated and moving the array to an expanded condition; [The method of claim 7 wherein the tissue to be ablated is within an organ,]

(c) [wherein the method further includes the step of] measuring the approximate length and width of the organ, [and wherein step (c) includes the steps of] selecting an ablation power corresponding to the measured length and width, and delivering [the] RF energy to the tissue at approximately the selected power to cause the tissue to dehydrate; and

(d) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic member and away from the tissue, the suction drawing the moisture through the tubular member.

67. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(a) providing an ablation device including an expandable electrode array carried by an elongate tubular member, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon [The method of claim 7] wherein the array material has elasticity in a transverse direction and in a longitudinal direction and wherein the elasticity in the transverse direction is greater than the elasticity in the longitudinal direction;

(b) positioning the electrode array in contact with tissue to be ablated and moving the array to an expanded condition;

(c) delivering RF energy through the array to the tissue to cause the tissue to dehydrate; and

(d) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic member and away from the tissue, the suction drawing the moisture through the tubular member.

71. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(a) providing an ablation device including an electrode array carried by an elongate tubular member, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon, [The method of claim 15] wherein the fluid permeable elastic member includes metallized fabric;

(b) positioning the electrode array into contact with tissue to be ablated;

(c) delivering RF energy through the array to the tissue to cause the tissue to dehydrate;

(d) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic member and away from the tissue and

(e) applying suction through the tubular member to draw the tissue into contact with the electrode array.

75. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(a) providing an ablation device including an electrode array carried by an elongate tubular member, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon;

(b) positioning the electrode array within an organ and into contact with tissue to be ablated; [The method of claim 15 wherein the tissue to be ablated is within an organ,]

(c) [wherein the method further includes the step of] measuring the approximate length and width of the organ, [and wherein step (c) includes the steps of] selecting an ablation power corresponding to the measured length and width, and delivering the RF energy to the tissue at approximately the selected power to cause the tissue to dehydrate;

(d) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic member and away from the tissue; and

(e) applying suction through the tubular member to draw the tissue into contact with the electrode array.

76. (AMENDED) The method of claim 75 [15] wherein the step of measuring the approximate width of the organ includes the step of expanding the flexures to an expanded condition and deriving the approximate width of the uterus from the relative positions of the flexures in the expanded condition.

77. (AMENDED) The method of claim 75 [15] wherein step (c) further includes selecting an ablation power which is proportional to the measured length times the measured width.

80. (AMENDED) A method of ablating and/or coagulating tissue, comprising the steps of:

(a) providing an ablation device including an electrode array carried by an elongate tubular member, the electrode array including a fluid permeable elastic member having insulating regions and conductive regions thereon, [The method of claim 15] wherein the array material has elasticity in a transverse direction and in a longitudinal direction and wherein the elasticity in the transverse direction is greater than the elasticity in the longitudinal direction;

(b) positioning the electrode array into contact with tissue to be ablated;

(c) delivering RF energy through the array to the tissue to cause the tissue to dehydrate;

(d) permitting moisture generated during the dehydration of step (c) to pass into the fluid permeable elastic member and away from the tissue; and

(e) applying suction through the tubular member to draw the tissue into contact with the electrode array.